

BEHAVIOR

Women in crime, new opportunities

The world of crime has traditionally been a male preserve. The few women who were allowed to enter usually did so in a subservient role. They worked under the direction and guidance of men who were their lovers, husbands or pimps. In most instances, the woman's job was to entice victims, distract or look out for the police, carry the loot or provide cover. With the help of the women's liberation movement, this situation might change, says Rita James Simon of the University of Illinois. As a function of expanded consciousness, as well as occupational opportunities and widened horizons, women's participation, roles and involvement in certain areas of crime are expected to change and increase.

Women's participation in financial and white-collar offenses (fraud, embezzlement, larceny, forgery, etc.) should increase as their opportunities for employment in higher status occupations expand. Women's participation in crimes of violence, especially homicide and manslaughter, are not expected to increase. The reasoning here, says Simon, is that women's involvement in violent acts usually arises out of the frustration, subservience and dependency that have characterized the traditional female role. Case histories reveal a dominant pattern. When women can no longer contain their frustrations and their anger, they express themselves by doing away with the cause of their condition—most often a man, sometimes a child. But as employment and educational opportunities increase, women's feelings of victimization and exploitation will decrease and the motivation to kill will be muted.

Simon's theories are contained in "The Contemporary Woman and Crime," a new monograph published by the National Institute of Mental Health. Arrest statistics from 1953 to 1972 back up Simon's statements. In that 20-year period, the percentage of females arrested for all crimes rose from 10.84 to 15.27 percent. In serious crimes, the increase was from 9.40 to 19.25. In both burglary and larceny-theft, the percentage of females arrested more than doubled. In embezzlement and fraud, the percentage of arrests for females has gone from 18.4 to 29.7 percent; in forgery and counterfeiting, from 14.0 to 25.4 percent. During the same period, however, the percentage of women arrested for criminal homicide and aggravated assault has remained about the same.

Female criminality has been ignored almost completely by criminologists, law enforcement officials and community and clinical psychologists. Even the most recent texts on criminology devote, at best, only a few pages to women. This situation may have to change as women's role in crime changes. "If the present trend continues," says Simon, "in 20 years women will probably be involved in white-collar crime in a proportion commensurate with their representation in the society."

Patient/staff goal reached

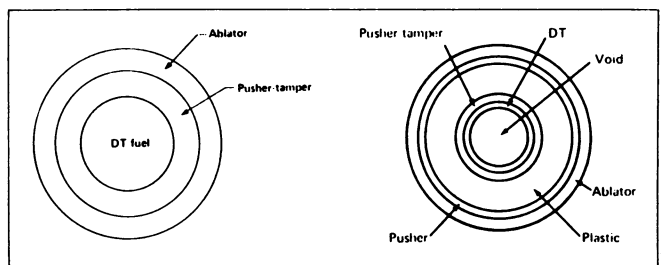
"In 1948, there were 5.2 average resident patients for each full-time staff member, and the pipe dream was to achieve one-to-one. It is a good feeling to be able to say 'now we are there.'" Last week, Bertram H. Brown, director of NIMH, announced that for the first time in the history of the state and county mental hospital system, the equivalent of one full-time staff member for each inpatient has been reached. The goal was attained despite the decrease of nearly 10,000 staff members during fiscal 1974. This 4.3 percent decline was offset by a 13 percent decrease in patient population, the nineteenth consecutive year such a decrease was recorded. At the end of fiscal 1974 there were 215,573 patients housed in state and county mental hospitals, a 61 percent drop since 1955.

TECHNOLOGY

From our reporter at the Conference on Laser Engineering and Applications in Washington.

Fusion targets disclosed

After years of secrecy, the design of laser fusion target pellets is finally being discussed openly. One of the most complete treatments occurs in the 1974 annual report of the Lawrence Livermore Laboratory's laser program, copies of which were in hot demand at the recent Washington conference.



In the basic, solid pellet design (left) high energy laser pulses impinge on an "ablator" layer that is burned away during fusion of the pellet, but serves to increase absorption of the laser light and to reduce plasma instabilities. The next layer, called the "pusher-tamper," serves two purposes—to physically explode and thus squeeze the deuterium-tritium fuel core enough to cause thermonuclear fusion, and then to increase the confinement time of the dispersing core. If the pusher-tamper contains uranium, neutrons coming from the core create additional nuclear energy by causing fission.

A more complex pellet (right) has a hollow center and multiple pushers, separated by a layer of plastic. The hollow pellet requires less laser power since the surface to receive pressure is spread over a larger area. They are more expensive to fabricate, however, and more sensitive to fluid instabilities.

Computer simulations now indicate that a fusion reactor using solid pellets would require short wavelength lasers with energies exceeding 100 kilojoules and powers exceeding 10^{15} watts. Hollow pellets may reduce the overall power requirement somewhat.

Lasers in heavy industry

When James Bond was almost cut in two by an industrial laser in the movie "Goldfinger," the super, metal-slicing laser—capable of burning its way through solid steel doors—was a fake. Now it isn't. Powerful gas-dynamic lasers (mostly CO_2 with light in the infrared) are able to operate at levels varying from 100 watts to 20 kilowatts, and concentrating their energy on a spot as small as 0.1 millimeter. By changing the power and beam size, engineers are using the new lasers for an increasingly wide spectrum of applications—welding, cutting, surface hardening and even alloying.

Michael Yessick described to the Washington conference some experimental applications the Ford Motor Co. is now making of powerful lasers. In cutting steel auto parts, lasers may help save money by reducing the time and expense involved in replacing cutting bits. A computer-controlled laser beam can weld auto underbodies with a seal better than the present spot welding. Some potential applications of lasers do not even have present equivalents because the jobs were impossible to do before—an example is the hardening of exhaust valve guides by heat-treating them from the inside with lasers. One problem stands in the way of these new lasers' applications, however—models of this size may run a half million dollars.